

National Resources Inventory: *Background*

The National Resources Inventory (NRI) is a compilation of natural resource information on non-Federal land in the United States—about 75 percent of the total land area.

Conducted by the U.S. Department of Agriculture's Natural Resources Conservation Service in cooperation with the Iowa State University Statistical Laboratory, this inventory captures data on land cover and use, soil erosion, prime farmland soils, wetlands, habitat diversity, selected conservation practices, and related resource attributes. Data are collected every 5 years from the same 800,000 sample sites in all 50 States, Puerto Rico, the U.S. Virgin Islands, and some Pacific Basin locations. The NRI is a statistically based survey that has been designed and implemented using scientific principles to assess conditions and trends of soil, water, and related resources.

The NRI provides a record of trends in the Nation's resources over time and documents conservation accomplishments as well. At each sample point, information is available for 1982, 1987, 1992, and 1997, so that trends and changes in land use and resource characteristics over 15 years can be examined and analyzed. The NRI provides information for addressing agricultural and environmental issues at national, regional, and State levels.

Purpose and Use

The NRI is conducted to obtain scientific data that is valid, timely, and relevant on natural resources and environmental conditions. Through legislation—the Rural Development Act of 1972, the Soil and Water Resources Conservation Act of 1977, and other supporting acts—Congress mandates that the NRI be conducted at intervals of 5 years or less.

Information derived from the NRI is used by natural resource managers; policymakers; analysts; consultants; the media; other Federal agencies; State governments; universities; environmental, commodity, and farm groups; and the public. These constituents use NRI information to formulate effective public policies, fashion agricultural and natural resources legislation, develop State and national conservation programs, allocate USDA financial and technical assistance in addressing natural resource concerns, and enhance the public's understanding of natural resources and environmental issues.

Seven Decades of Resources Inventories

Hugh Hammond Bennett directed the pioneer National Erosion Reconnaissance Survey of 1934. This survey, the first well-documented nationwide resource inventory, estimated the degree of erosion caused by wind and water on the

total land area of the United States. Six months after the survey was completed, Congress passed the Soil Conservation Act of 1935, which established the Soil Conservation Service, the forerunner of NRCS, and Bennett was named the agency's first chief.

By the early 1940s, SCS realized natural resources information was required to develop programs and set priorities for various conservation needs throughout the country. After assembling and analyzing the available resources data, SCS published in 1945 a report on U.S. soil and water conservation needs, which became the Conservation Needs Inventory (CNI) and prepared the ground for future inventories.

In 1956, SCS began a cooperative endeavor to maintain and update the CNI. Seven other USDA agencies assisted. Data were collected from sample areas for the 1958 CNI. It was the first time that SCS used statistical sampling to collect natural resource inventory data and the first time since 1934 that new data were actually collected in the field.

The 1967 CNI was an update of the 1958 CNI, but featured data collection at specific sample points within randomized sample units. This collection method simplified data collection and processing. By the mid-1970s, SCS had developed a way to link resource inventory data to

soils data collected by the agency's nationwide soil mapping program, the National Cooperative Soil Survey.

The Rural Development Act of 1972 set guidelines for the present inventory program. The Act's language specified that information on urban sprawl and rural economic survival, prime farmland, flood plains, and conservation practices was needed to devise community guidance for balanced rural-urban growth. The Act also shortened the interval between resource inventories from 10 years to 5 years.

The 1977 NRI gathered data on soil erosion, wetlands, prime farmland soils, and flood-prone areas, as well as soil capability, land use, and conservation treatment needs. It used nearly 70,000 randomly selected sample areas and was statistically reliable to the State level.

The 1982 NRI was more comprehensive with respect to the kinds of data gathered and the number of sample areas covered. Its findings included the extent and distribution of highly erodible croplands throughout the Nation. It laid the groundwork for development of the Conservation Reserve Program and Conservation Compliance, Sodbuster, and Swampbuster conservation provisions of the Food Security Act of 1985.

The 1987 NRI initiated changes in how the data were gathered and analyzed. Previously, SCS employees collected data onsite and manually entered it onto worksheets. Almost 30 percent of the 1987 sample data was collected using remote sensing. SCS used trained teams to collect and enter the data into computers. New software allowed SCS State offices to quickly deliver NRI data to the public.

The 1992 NRI relied heavily on remote sensing and computer-based technologies. Aerial photography was used, where available, to collect the new data, verify the 1982 and 1987 data, and fill in missing data for those years. The 1982 and 1987 databases were updated to current standards of technology, enabling SCS to establish and track trends in natural resource use and conditions over 10 years.

From 1995 to 1999, NRCS conducted special small-scale inventories to investigate topical matters of concern and supplement the major NRI. Data from these reports are statistically reliable for national and some regional analyses.

Data used for the most current NRI were collected using a variety of imagery, field office records, histori-

cal records and data, ancillary materials, and a limited number of onsite visits. Historical data were carefully reviewed. Data gatherers recorded information with the assistance of personal digital assistants and computer-assisted survey instruments. Data collected in 1997 enable an analysis of trends extending over 15 years.

Meeting Future Needs for Information

The NRI program is continuing to evolve as cost-effective methods are developed to collect more timely and relevant information that addresses emerging agri-environmental issues. New inventory approaches will incorporate new tools, methodologies, and technologies. Efforts are underway to implement a continuous inventory process, develop a multi-agency integrated inventory approach, incorporate various assessment tools for resource health, and more fully use inventory data for modeling and policy analysis.

For More Information

Contact the USDA Natural Resources Conservation Service or the NRI website where information will be available at <http://www.nhq.nrcs.usda.gov/NRI>

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